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PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YOUNGLOK KIM and ARIELA ZEIRA

Appeal 2009-006704
Application 10/079,107
Technology Center 2400

Decided: January 7, 2010

Before JOSEPH F. RUGGIERO, KARL D. EASTHOM, and ELENI
MANTIS MERCADER, *Administrative Patent Judges*.

MANTIS MERCADER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Final Rejection of claims 1-8 and 13-16, which are all of the pending claims. An oral hearing was conducted on this appeal on November 3, 2009.¹ We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief (filed February 19, 2008) and the Answer (dated June 19, 2008) for the respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants' Invention

Appellants' invention relates to a system and method for use in a code division multiple access (CDMA) communication system wherein the base station has a transmitter which includes a first and second antenna for transmitting a data field of symbols. A first spreading device spreads the first data field using a first channelization code and a second spreading device spreads the second data field using a second channelization code,

¹ During the same hearing session on November 3, 2009, oral hearings were conducted on related Appeal Nos. 2009-006389 (S.N. 10/071,917), 2009-0006410 (S.N. 10/077,076), 2009-006660 (S.N. 10/077,565), 2009-006837 (S.N. 09/999,287), 2009-006365 (S.N.10/071,903), and 2009-007629 (S.N. 10/107,465).

each channelization code being uniquely associated with one of the first and second antennas. *See* Spec. ¶ [0013].

Claims 5 and 15 are illustrative of the invention and read as follows:

5. A transmitter for transmitting a data field of symbols comprising:
a first and second antenna for transmitting said data field of symbols,
wherein said data field includes a first data field;
an encoder for encoding said data field producing a second data field
having complex conjugates of the symbols of said data field; and
a first channelization device for receiving the data field including the
first data field and spreading said first data field, wherein said first
channelization device spreads said first data field using a first channelization
code that is uniquely associated with the first antenna; and
a second channelization device for receiving the second data field
from the encoder and spreading said second data field using a second
channelization code, the second channelization code being uniquely
associated with the second antenna.

15. A transmitter for transmitting a data field of symbols comprising:
a first and second antenna for transmitting said data field of symbols;
and
a first channelization device for spreading said data field, wherein said
first channelization device spreads said data field using a first channelization
code that is uniquely associated with the first antenna, producing a first
spread data field; and
a second channelization device for spreading said data field using a
second channelization code that is uniquely associated with the second
antenna, producing a second spread data field.

The Examiner's Rejections

The Examiner's Answer cites the following prior art references:

Dabak (Dabak '473)	US 6,594,473 B1	Jul. 15, 2003
		(filed May 24, 2000)

Akiba	US 6,721,300 B1	Apr. 13, 2004 (filed Aug. 28, 2000)
Dabak (Dabak '260)	US 6,775,260 B1	Aug. 10, 2004 (filed Feb. 25, 2000)
Ylitalo	US 6,788,661 B1	Sep. 7, 2004 (filed Nov. 12, 1999)

1. The Examiner rejected claims 1-4, 13, and 14 on the ground of non-statutory obviousness type double patenting over claims 1-18 of both copending US Application Serial Nos. 10/071,903 and 10/071,917.

2. The Examiner rejected claims 5-8 and 15-16 on the ground of non-statutory obviousness type double patenting over claims 1-12 of copending US Application Serial No. 10/077,076.

3. The Examiner rejected claims 5-8 and 15-16 on the ground of non-statutory obviousness type double patenting over claims 1-12 of copending US Application Serial No. 10/077,565.

4. The Examiner rejected claims 5-8 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The Examiner rejected claims 13 and 15 under 35 U.S.C. § 102(e) as being anticipated by Dabak '473.

6. The Examiner rejected claims 14 and 16 under 35 U.S.C. § 103(a) as being unpatentable over Dabak '473 in view of Akiba.

7. The Examiner rejected claims 1 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Dabak '260 in view of Ylitalo.

8. The Examiner rejected claims 2-4 and 6-8 under 35 U.S.C. § 103(a) as being unpatentable over Dabak ‘260 in view of Ylitalo and further in view of Akiba.

At the outset, we note that as Appellants have presented no arguments against this rejection in their Brief, we sustain *pro forma* the Examiner’s obviousness-type double patenting rejection of claims 1-8 and 13-16 over copending application Serial Nos. 10/071,903, 10/071,917, 10/077,076, and 10/077,565. At page 7 of the Brief, Appellants have expressed on the record their willingness to file a terminal disclaimer to overcome the obviousness-type double patenting rejections.²

ISSUES

The pivotal issues before us are whether Appellants have demonstrated that the Examiner erred in determining:

- I. that claims 5-8 are indefinite;
- II. that claims 13 and 15 are anticipated by Dabak ‘473;
- III. that claims 14 and 16 are obvious over Dabak ‘473 in view of Akiba;
- IV. that claims 1 and 5 are obvious over Dabak ‘260 in view of Ylitalo.

² We note that Appellants list only claims 1-4 and 13-16 as the rejected claims under the judicially created doctrine of obviousness double patenting instead of claims 1-8 and 13-16. We consider the omission of claims 5-8 as an inadvertent error with the intent to include all of the rejected claims under the doctrine in the absence of any other arguments with respect to these claims.

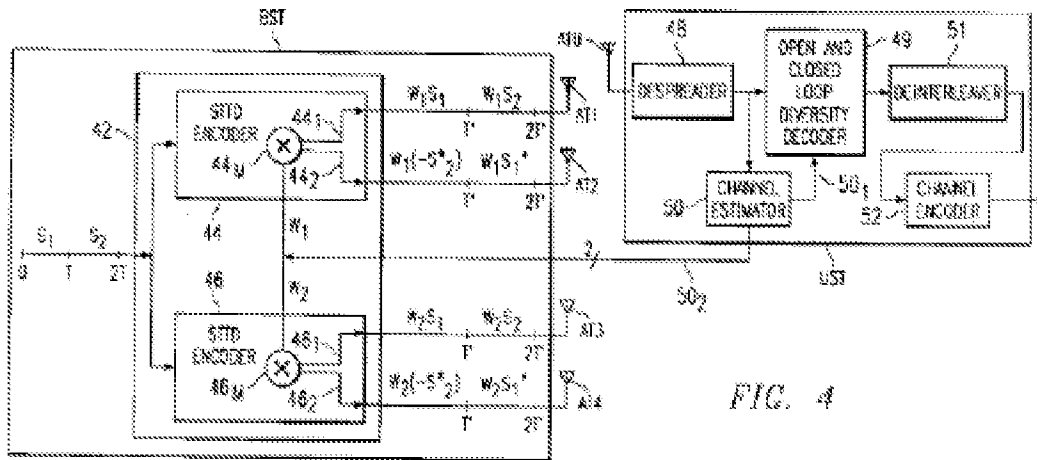
V. that claims 2-4 and 6-8 are obvious over Dabak '260 in view of Ylitalo and Akiba.

FINDINGS OF FACT

The record supports the following relevant findings of fact (FF) by a preponderance of the evidence:

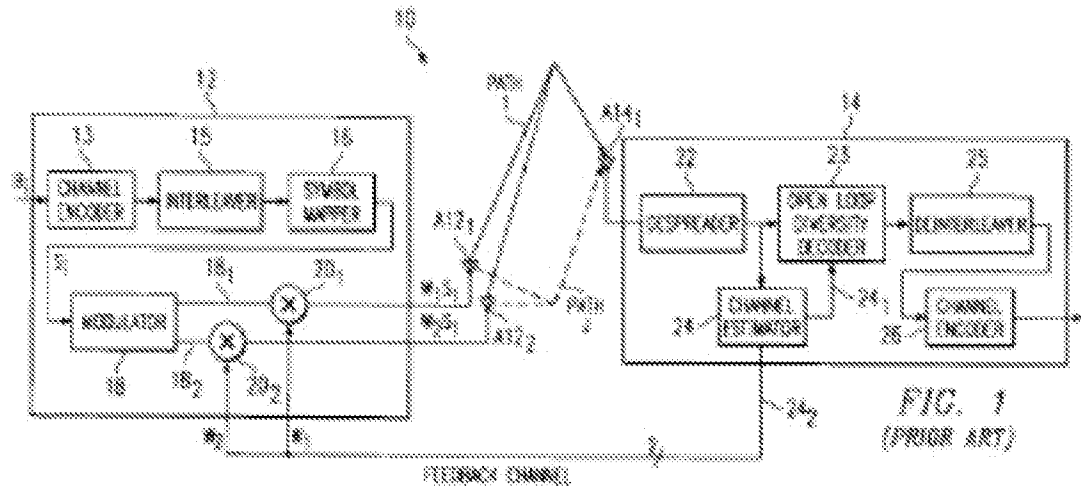
1.

1. Dabak '473's Figure 4 is depicted below:



Dabak '473's Figure 4 depicts four antennas with a group of two antennas sharing the same code, wherein W_1 is associated with antenna AT1 and antenna AT2 and W_2 is associated with antenna AT3 and antenna AT4. Furthermore, Figure 4 constitutes an improvement over the dual-antenna prior art CDMA spreading scheme described infra in Dabak '473's Figure 1. (Col. 7, l. 65 to col. 8, l. 8; *see also* col. 6, ll. 54-57).

2. Dabak '473's Figure 1 is depicted below:



Dabak '473's Figure 1 represents a prior art CDMA system showing two antennas transmitting spread signals W_1S_1 and W_2S_1 (col. 3, l. 24 to col. 4, l. 11).

3. Akiba teaches that "[c]ode multipliers 114 and 116 multiply transmission data by various spreading codes such as a channelizing code and scrambling code. Signals are transmitted from two antennas 118 and 120 with [sic] same power, for example" (col. 4, ll. 11-14).
4. Ylitalo discloses a beam coding system in which different spread spectrum channelization codes are applied to first and second symbol data fields through multipliers 12 and 14. Figs. 4 and 5, col. 4, ll. 56-58 and col. 5, ll. 37-41.
5. Ylitalo further discloses transmitting, from antenna 16, the beam with a first channelization code that has been applied to a symbol data field through multiplier 12, and transmitting, from antenna 18, the beam with a second different channelization code that has been applied to a

second symbol data field through multiplier 14. Col. 4, ll. 51-59 and col. 5, ll. 27-57.

PRINCIPLES OF LAW

Indefiniteness

Under § 112, second paragraph, claims must be “sufficiently definite such that those skilled in the art would understand what is being claimed when the claim is read in light of the Specification.” *Ex parte Miyazaki*, 89 USPQ2d 1207, 1213 (BPAI 2008) (precedential).

It is evident to us from the above summary of the description, definitions and examples appearing in appellant’s specification, that the claims on appeal are inherently inconsistent. . . . The result is an inexplicable inconsistency within each claim requiring that the rejection under 35 U.S.C. 112 on grounds of indefiniteness be sustained.

In re Cohn, 438 F.2d 989, 993 (CCPA 1971).

Anticipation

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Obviousness

The Examiner bears the initial burden of presenting a prima facie case of obviousness, and Appellant has the burden of presenting a rebuttal to the

prima facie case. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).

ANALYSIS

*I. The 35 U.S.C. § 112, second paragraph, rejection of claims 5-8.*³

The Examiner asserted (Fin. Rej. 4) that claim 5 is unclear because the phrase “a first and second antenna for transmitting said data field of symbols wherein said data field includes a first data field” requires transmission by both antennas. The Examiner maintains (*id.*) that “said data field” refers to all the transmitted data, i.e., the data D_1 , D_2 , and the complex conjugates of that data, D_1^* and D_2^* ⁴ - respectively disclosed as transmitted by the first and second antennas 15 and 16 in Figure 2 of Appellants' disclosure.

As such, according to the Examiner, the claim 5 phrase, “an encoder for encoding said data field producing a second data field having complex conjugates” is unclear, because if “said data field” refers to all the data, then the encoder limitation requires the encoder to produce complex conjugates of all the data, D_1 , D_2 , D_1^* , and D_2^* . The Examiner (*id.*) correctly implies

³ While Appellants and the Examiner refer to claims 1-4 (Br. 8, Ans. 12), we consider this an inadvertent error as the rejected claims are claims 5-8.

⁴ Appellants actually disclose transmission of the negative of the complex conjugated data D_2^* (i.e., $-D_2^*$), but reference here is simply to D_2^* (Fig. 2). (The complex conjugate involves a phase transformation of the particular data element D_1 or D_2 . Appellants' encoder also re-arranges the data order from (D_1, D_2) to $(-D_2^*, D_1^*)$ – see Fig. 2).

that such a construction would contradict the disclosure because the disclosed encoder 11 (Fig.2) only produces the complex conjugates D_1^* and D_2^* .

Appellants (Br. 8) respond by stating that the “encoder is shown in Figure 2 as receiving the data field that is recited in the preamble of the claim.” As discussed *supra*, Appellants’ encoder in Figure 2 only receives data D_1 , D_2 (to create the complex conjugates D_2^* , D_1^*). Thus, if the preamble phrase “a data field,” and subsequent references to it in claim 5, i.e., “said data field,” refer only to data D_1 , D_2 , then the claim comports with the disclosure.

Appellants also respond (Br. 8) that “[e]ither antenna shown in Figure 2 may be considered to be the first or second antenna.” In other words, either antenna of the claim can transmit “said data field” D_1 and D_2 – implying that the other antenna can transmit D_1^* and D_2^* – even if the open ended preamble only *requires* transmission of “a data field” comprising D_1 and D_2 .

The Examiner does not address this line of reasoning in the Answer (Ans. 12), but rather, relies on the reasoning proposed in the Final Rejection and discussed *supra*. Appellants have described how the claim comports with the disclosure in response to the Examiner’s proposed construction showing how the claim does not. In other words, in light of the disclosure, the record shows that the claim is amenable to Appellants’ construction, but not the Examiner’s. Therefore, claim 5 is “sufficiently definite such that those skilled in the art would understand what is being claimed when the claim is read in light of the Specification.” *Miyazaki*, 89 USPQ2d at 1213.

Based on the discussion above, Appellants have demonstrated the Examiner erred in the indefiniteness rejection of claims 5-8.

II. The 35 U.S.C. § 102(e) rejection of independent claims 13 and 15 as being anticipated by Dabak '473.

Appellants argue that Dabak's Figure 4 indicates that Walsh code one (W_1) is used to spread the data transmitted "on both antenna one *and* antenna two" (Br. 10) (emphasis in original). Appellants further argue that Walsh code two (W_2) is used to spread the data transmitted "on both antenna three *and* antenna four" (Br. 10) (emphasis in original). Appellants assert that there is no disclosure, teaching, or suggestion that any different channelization code is used on the symbols which is uniquely associated with a particular antenna (Br. 10).

Dabak '473's Figure 4 discloses four antennas (FF 1) and a group of two antennas each share the same code, wherein W_1 is associated with antenna AT1 and antenna AT2 and W_2 is associated with antenna AT3 and antenna AT4.

However, we are not persuaded by Appellants' argument because Figure 4 satisfies claims 13 and 15 of the terms "uniquely associated" as recited in the claims. While we agree with Appellants that W_1 is associated with antenna AT1 and antenna AT2, and W_2 is associated with antenna AT3 and antenna AT4, nonetheless, each *association* is unique because it involves a unique combination of code, antenna, and transmission line. It follows that W_1 is uniquely associated with AT1 and W_2 is uniquely associated with AT3.

In addition, the open transitional term of “comprising” does not preclude *comparisons* between channelization codes that are “uniquely associated” with some antennas (i.e., W_1 being uniquely associated with AT1 and W_2 being uniquely associated with AT3 as compared between the AT1 and AT3 antennas only) as well as comparisons between channelization codes that are *not* uniquely associated with some antennas (i.e., W_1 not being uniquely associated with AT1 and AT2 as compared between the AT1 and AT2 antennas only). Thus, the characterization of the “channelization code” as “uniquely associated” depends on the comparison of that association between a set of antennas. The transitional term “comprising” is inclusive or open-ended and does not exclude additional, unrecited elements (i.e., W_1 not being uniquely associated with AT1 and AT2 as compared between the AT1 and AT2 antennas only). *See Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997).

Furthermore, Figure 4 (FF 1) represents Dabak ‘473’s improvement over prior art Figure 1 (FF 2). Figure 1 discloses only two antennas with W_1 uniquely associated with first antenna AT12₁ and W_2 uniquely associated with second antenna AT12₂ (FF 2). Therefore, based on the arguments presented, Figure 1 also satisfies the disputed limitations of claims 13 and 15.

For the reasons articulated *supra*, we will sustain the Examiner’s rejection of claims 13 and 15.

III. The 35 U.S.C. § 103(a) rejection of claims 14 and 16 under 35 U.S.C. § 103(a) as being unpatentable over Dabak '473 in view of Akiba.

Appellants (Br. 10) rely on Dabak '473's alleged deficiencies with respect to independent claims 13 and 15. Appellants (*id.*) also repeat the limitations of claims 14 and 16 and deny that the combined references satisfy the claims.

We agree with the Examiner's finding (Ans. 11-12) that Akiba (col. 4, ll. 11-14) teaches scramblers 114 and 116 in Figure 1, thereby suggesting combining "a first and second scrambling device" with Dabak '473's transmitter to protect data transmission.

Accordingly, we are not persuaded by Appellants' reliance on the arguments made with respect to claims 13 and 15, for the reasons explained above. Furthermore, mere reiteration of claims' 14 and 16 limitations without any substantive analysis or explanation as to how or why these limitations are not obvious over Dabak '473 and Akiba do not amount to arguments of patentability. Simply pointing out what a claim requires with no attempt to point out how or why the claims patentably distinguish over the prior art does not amount to a separate argument for patentability. 37 C.F.R. § 41.37(c)(1)(vii) (2004). *See also In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987).

Thus, we will also sustain the Examiner's rejection of claims 15 and 16.

IV. The 35 U.S.C. § 103(a) rejection of claims 1 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Dabak '260 in view of Ylitalo.

Appellants argue (Br. 9) that there is no disclosure, teaching, or suggestion in the Ylitalo reference that a first channelization code that spreads a data field is uniquely associated with a first antenna and a second channelization code that spreads a data field is uniquely associated with a second antenna, as is recited in the claims 1 and 5. Appellants further argue (Br. 9) that Dabak does not cure the cited deficiencies.

We do not find Appellants' arguments to be persuasive of any error in the Examiner's stated position. We agree with the Examiner (Ans. 13) that Ylitalo provides a specific disclosure (FF 4-5) of transmitting, from antenna 16, a beam with a first channelization code that has been applied to a symbol data field through multiplier 12, and transmitting, from antenna 18, a beam with a second different channelization code that has been applied to a second symbol data field through multiplier 14. In other words, Ylitalo discloses that a first channelization code (i.e., in Fig. 4, OC 12) that spreads a data field "is uniquely associated with a first antenna" (i.e., in Fig. 4, antenna 16) and a second channelization code (i.e., in Fig. 4, OC 14) that spreads a data field "is uniquely associated with a second transmission antenna" (i.e., in Fig. 4, antenna 18). There are no convincing arguments presented from Appellants, why the respective first and second channelization codes in Ylitalo would not be considered to be uniquely associated with the respective first and second beam transmitting antennas 16 and 18 as claimed.

Accordingly, we will sustain the Examiner's rejection of claims 1 and 5.

V. The 35 U.S.C. § 103(a) rejection of claims 2-4 and 6-8 under 35 U.S.C. § 103(a) as being unpatentable over Dabak '260 in view of Ylitalo and further in view of Akiba.

Appellants assert that Akiba does not cure the deficiencies of the Ylitalo and Dabak combination (Br. 9). We are not persuaded by Appellants' argument for the same reasons as articulated *supra*.

Furthermore, Appellants nominally argue claims 2-4 and 6-8 separately (Br. 9-10) by essentially reiterating claim limitations and do not provide any substantive analysis or explanation as to how or why these limitations are not anticipated by Ylitalo. Simply pointing out what a claim requires with no attempt to point out how or why the claims patentably distinguish over the prior art does not amount to a separate argument for patentability. 37 C.F.R. § 41.37(c)(1)(vii) (2004). *See also In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987).

Accordingly, we also sustain the Examiner's rejection of claims 2-4 and 6-8.

CONCLUSIONS OF LAW

Appellants have demonstrated that the Examiner erred in determining that claims 5-8 are indefinite. Appellants have not demonstrated that the Examiner erred in determining that claims 13 and 15 are anticipated by Dabak '473; that claims 14 and 16 are obvious over Dabak '473 in view of Akiba; that claims 1 and 5 are obvious over Dabak '260 in view of Ylitalo; and that claims 2-4 and 6-8 are obvious over Dabak '260 in view of Ylitalo and Akiba.

DECISION

The Examiner's decision rejection of claims 1-8 and 13-16, all of the appealed claims, is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Appeal 2009-006704
Application 10/079,107

AFFIRMED

ELD

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